

AMENDMENTS TO THE CLAIMS:

Please cancel claim 14 and amend claims 13, 15 and 16 as follows.

LISTING OF THE CLAIMS

The listing of claims will replace all prior versions, and listings of claims in the application:

1. (Previously Presented) A continuous extrusion machine having a chassis (1) supporting a wheel (2) for rotation and a shoe (3) enveloping a span of the periphery of the wheel (2) and co-operating with a groove (7) formed in the periphery of the wheel (2) to form a passage,

a support mechanism supporting at least one of said shoe (3) and said wheel (2) to be relatively displaceable in a direction perpendicular to the axis of rotation of the wheel (2) during use,

a gap sensor system able to sense the size of a gap (12) between the wheel periphery and the shoe (3) when the machine is operating, and

a control device responsive to the gap sensor system to adjust the support mechanism to displace the shoe (3) relative to the wheel (2), in each of two mutually perpendicular directions whereby the size and shape of the gap can be controlled.

2. (Original) A continuous extrusion machine according to claim 1 wherein the gap sensor system is able to detect the shape of the gap (12).

3. (Previously Presented) A continuous extrusion machine according to claim 1 wherein the support mechanism comprises a wedge assembly (13, 14) having a wedge (16, 24) longitudinally displaceable against a complementary ramp (17, 25).

4. (Original) A continuous extrusion machine according to claim 3 wherein the support mechanism has a first wedge assembly (13) and a second wedge assembly (14), the first wedge assembly disposed to displace the shoe (3) in a first direction perpendicular to the axis of rotation of the wheel (2) and the second wedge assembly disposed to displace the shoe (3) in a direction perpendicular to the rotary axis of the

wheel (2) and the first wedge assembly whereby the size and shape of the gap (12) can be altered during operation.

5. (Previously Presented) A continuous extrusion machine according to claim 3 wherein each wedge (16, 24) is displaced by hydraulic rams (19, 26).

6. (Original) A continuous extrusion machine according to claim 5 wherein the gap sensor system comprises a gap sensor (4, 4A, 5) which senses the gap size directly.

7. (Original) A continuous extrusion machine according to claim 6 wherein the gap sensor system provides at least two gap sensors (4, 4A, 5) each located peripherally spaced from the other to sense the size and shape of the gap (12).

8. (Original) A continuous extrusion machine according to claim 7 wherein the gap sensor system includes a first gap sensor (4) located at the entrance to the passage, a second gap sensor (4A) located immediately upstream of the tooling (9) in the shoe (3) and a third gap sensor (5) located downstream of an abutment (8).

9. (Previously Presented) A continuous extrusion machine according to claim 6 wherein the sensor is a sonic gap sensor.

10. (Previously Presented) A continuous extrusion machine according to claim 1 further comprising a scraper blade (47) supported on a scraper carrier (43) for radial displacement with respect to the rim of the wheel (2), said scraper carrier (43) being driven by a motor (46) controlled by the control device in accordance with signals received from a gap (12) sensor (48) mounted on the carrier to detect the separation of the tip of the scraper blade (47) and the periphery of the wheel (2).

11. (Original) A continuous extrusion machine according to claim 10 wherein the motor displaces the scraper carrier (43) by rotation of an eccentric shaft (44).

12. (Previously Presented) A continuous extrusion machine according to claim 9 wherein the gap sensor (48) is a sonic gap sensor.

13. (Currently Amended) A method of operating a continuous extrusion machine wherein feedstock is entrained in a groove (7) formed in the periphery of a wheel (2) rotating in a chassis (1) and drawn into a passage formed between the groove (7) and a shoe (3), said passage being obstructed by an abutment supported by the shoe (3) so that friction between the shoe (3) and the abutment will cause the feedstock to extrude through a die supported in the shoe (3), comprising the steps of:

sensing the actual shape and size of a gap (12) between the wheel (2) and the shoe (3),

comparing the actual size of the gap (12) with a predetermined or previous gap size in a control device to determine if there is a difference, said control device responding to a difference to control a support structure which supports at least one of the shoe (3) and the wheel (2) in the chassis (1) to displace at least one of the shoe (3) and the wheel (2) on at least one axis perpendicular to the axis of rotation of the wheel (2) so that the gap (12) is changed to reduce the difference[.]; and

adjusting a support mechanism to displace the shoe (3) relative to the wheel (2) in each of two mutually perpendicular directions whereby the size and shape of the gap (12) can be altered during operation.

14. (Cancelled)

15. (Currently Amended) A method according to claim 44 ~~13~~ wherein the predetermined gap size is set to a desired gap size while the machine is extruding.

16. (Currently Amended) A method according to claim 13 wherein the gap size is sensed at at least one position comprising the steps of:

- [I]i. blowing a pressurised gas through the gap (12) at at least one point adjacent the passage,
- ii. adjusting the gas pressure to be sufficient to that the gap (12) is choked,
- iii. sensing the gas pressure upstream of the gap (12),

- iv. communicating the gas pressure to the control device,
- v. calculating the actual gap (12) size from the gas pressure.

17. (Original) A method according to claim 16 wherein the gap size is sensed at at least two circumferentially spaced points adjacent the passage to determine the shape of the gap (12).

THE OFFICE ACTION

Applicants have now had an opportunity to carefully consider the Office Action of April 19, 2004.

In it, claims 1-17 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,634,415 since the claims, if allowed, would improperly extend the right to exclude already granted in the patent.

Claims 13-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nagai (JP 4-344822) in view of Miyazaki (JP 60-15018) and further in view of U.S. Patent No. 6,041,638 to Pinomaa ("Pinomaa").

Claims 1-12 were allowed, which is gratefully acknowledged, subject to a valid Terminal Disclaimer being filed.

Claims 16 and 17 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and subject to a valid Terminal Disclaimer being filed.

The Examiner will appreciate that selected claims have been amended to provide a more complete scope of protection for the invention.

Reexamination and reconsideration are respectfully requested.

REMARKS

I. Double Patenting

The applicants have attached a terminal disclaimer to overcome the Examiner's obviousness-type double patenting rejection with regard to claims 1-13 and 15-17.

II. Claim Rejections

With respect to **claim 13**, the applicants respectfully submit that the subject matter differs from the prior art of record. Claim 13 has been amended to overcome the rejection raised against it.

More particularly, claim 13, as amended, recites a method of operating a continuous extrusion machine wherein a feedstock is entrained in a groove formed in the periphery of a wheel rotating in a chassis and drawn into a passage formed between the groove and a shoe, the passage being obstructed by an abutment